

**FACT SHEET FOR NPDES PERMIT WA0040941
SOUTH BEND PACKERS**

SUMMARY

This permit incorporates the requirements of the Lower Willapa River Dissolved Oxygen Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA)

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has authorized the state of Washington to administer the NPDES permit program. Chapter 90.48 Revised Code of Washington (RCW) defines the Department of Ecology's (Department) authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 Washington Administrative Code [WAC]), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least 30 days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Russ and Diane Raymond
Facility Name and Address	South Bend Packers, Inc. P.O. Box 288, 237 West Robert Bush Dr., South Bend, WA 98586
Type of Facility:	Seafood Processing Plant
SIC Code	2092
Discharge Location	Willapa River @ river mile 3.75 Latitude: 46° 40' 08" N Longitude: 123° 47' 47" W.
Water Body ID No.	11-24-02

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

The South Bend Packers (SBP) building has been used as a fish processing plant for many years. The initial permit was issued on September 15, 1997. This is an EPA minor facility.

INDUSTRIAL PROCESS

South Bend Packers processes Dungeness crab, salmon, bottom fish, and tuna for sale. Crab are sold fresh or cooked, packed, and frozen. Salmon are filleted, boxed, and frozen. Tuna are sold fresh. Bottom fish are filleted, boxed, and frozen.

From South Bend Packers renewal application, production in 2004 is listed as 30,000 pounds of salmon and 60,000 pounds of crab per processing day. Processing frequency is described as seven days per week for seven months per year. Maximum flow rate is listed as 20,000 gallons per day.

DISCHARGE OUTFALL

South Bend Packers processing building extends out over the tidal boundary of the Willapa River. The facility doesn't have one consolidated outfall. Each processing room has one or more floor drains that discharge directly through the floor. At lower tides, the wastewater discharges onto the mud flats on the river bank. At higher tides, the process wastewater discharges directly into the river.

PERMIT STATUS

A permit for this facility was issued on September 17, 2001. The permit placed effluent limitations on pH, temperature, total residual chlorine, BOD, TSS, and Oil and Grease.

An application for permit renewal was submitted to the Department on April 27, 2005, and accepted by the Department on June 10, 2005.

SUMMARY OF COMPLIANCE WITH THE PERMIT ISSUED SEPTEMBER 17, 2001

The facility last received an inspection on April 12, 2004. This inspection included sampling for compliance. The facility also received a non-sampling inspection October 7, 2003.

During the history of the September 17, 2001, permit until January 2006, the Permittee has not remained in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department, as detailed below:

Date	Compliance Issue/Parameter(s)
December 2005	Enterococci and Fecal Coliform not reported
November 2005	DMR submitted late

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January 2005	Temperature not reported
November 2004	Enterococci and Fecal Coliform not reported
July 2004	TSS and BOD limits exceeded
April 2004	Inspection: noted that compliance sample was not representative
January 2004	Failure to monitor wastewater discharge - Penalty No. 1095 for \$2,155.
October 2003	Inspection noted that wastewater samples were being handling incorrectly, composite samples not collected correctly, and flow rate used for compliance was not read from meter.
May 2003	DMR submitted late.
March, May, September, October, and November 2002	pH violation
March 2002	Failure to sample & report BOD, O&G, & TSS
June, July, and October 2002	Chlorine residual violation
April 2002 and September and October 2001	DMR's submitted late.
September, October, November, and December 2001 and January and February 2002	Chlorine residual not reported.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization (December 2004 thru January 2006 DMR's)

Parameter	<u>Concentration (mg/L) : Loading (pounds/day)</u>	
BOD	<u>1,640 max. - 521 avg.</u>	<u>7.2 max. - 2.7 avg.</u>
Total suspended solids	<u>1,460 max. - 160 avg.</u>	<u>4.4 max. - 0.64 avg.</u>
Oils & Grease	<u>12 max. - 5.6 avg.</u>	<u>7.5 max. - 0.72 avg.</u>
Fecal Coliform, #/100 mL	All results <2	
pH, standard units	Range 6.6 to 8.2	
Flow, gallons per day	Range 1,800 to 230	
Crab, pounds per day	29,934	

Parameter	<u>Concentration (mg/L) : Loading (pounds/day)</u>
Bottomfish, pounds per day	50

Table 2: Wastewater Characterization (from renewal application)

Parameter	Range
BOD	209 to 2,830 mg/L
Total suspended solids	90 to 1,460 mg/L
Oils & Grease	5.5 to 12 mg/L
Fecal Coliform, #/100 mL	147 to 1,600
pH, standard units	2.78 to 8.13
Chlorine residual	0.15 to 1.1 mg/L
Flow, gallons per day*	4,000 avg., 20,000 max.
Crab, pounds per day*	60,000
Salmon, pounds per day*	30,000
*2004 summary	

SEPA COMPLIANCE

This permit renewal has no State Environmental Policy Act (SEPA) issues.

PROPOSED PERMIT LIMITATIONS

Federal and state regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (40 CFR 131.36). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the state of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a),

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the Permittee is required to notify the Department. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

DESIGN CRITERIA

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria.

The floor drains with screens have no known design criteria.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

South Bend Packers is an existing source. As a processor of various seafood, it is subject to the following federal effluent guidelines:

- ◆ Shrimp - - - 40 CFR Part 408 Section 112- *Northern Shrimp Processing in the Contiguous States*
- ◆ Crab - - - -40 CFR Part 408 Section 82- *Dungeness & Tanner Crab Processing in the Contiguous States*
- ◆ Bottomfish -40 CFR Part 408 Section 212- *Non-Alaskan Conventional Bottom Fish Processing*
- ◆ Bottomfish -40 CFR Part 408 Section 222- *Non-Alaskan Mechanized Bottom Fish Processing*
- ◆ Salmon - - -40 CFR Part 408 Section 182- *West Coast Hand-Butchered Salmon Processing*
- ◆ Tuna - - - - 40 CFR Part 408 Section 142- *Tuna Processing*
- ◆ Oysters - - -40 CFR Part 408 Section 252- *Pacific Coast Hand-Shucked Oyster Processing*

Historically, South Bend Packers has not processed seafood from each of these categories. However, by being permitted, they have the option to do so if the opportunity arises. Fresh or frozen tuna (or other seafood) that moves across the dock or through the building but not processed, does not trigger the effluent limitations.

This permit also contains new limits for fecal coliform. The proposed limits are equivalent to the limits required to be met by the cities of Raymond and South Bend wastewater treatment plants, and are technology-based standards.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

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WILLAPA RIVER DISSOLVED OXYGEN, TOTAL MAXIMUM DAILY LOAD (WATER CLEAN UP PLAN)

The Department has listed the Lower Willapa River under section 303(d) of the federal Clean Water Act as not meeting water quality standards for dissolved oxygen (DO) and fecal coliform bacteria. The Lower Willapa River was placed on the 1998 303(d) list of “five excursions beyond the criterion out of 42 samples (12 percent) at the Department ambient monitoring station WPA001 between 1991 and 1996 (Cosmopolitan Engineering 2005). These five measurements below the 6.0 mg/L criteria took place during the months of July through September. State water quality standards (WAC 173-201A-612) classify the lower Willapa River as Class A marine water. Applicable marine criteria require that DO shall exceed 6.0 mg/L. The Department has monitored the Lower Willapa River since the early 1970’s and has recorded DO below the state water quality standards of 6.0 mg/L several times during late summer and early fall (July through September).

The study of June 2005 (Cosmopolitan Engineering, 2005) included computer modeling to quantify the effects of carbonaceous biochemical oxygen demand (CBOD₅) and inorganic ammonia (NH₃-N) from each point source. From this modeling, an equation was developed that describes calculation of compliance with the WLA. Any combination of waste loads (in lbs/day) that satisfies this equation- no more than 199 µg/L of EOD- is considered to be compliant with this limit. If the total EOD is exceeded for any week, any discharger that exceeded their individual allocation for that week will be in violation of the limit. The equation is stated in terms of Equivalent Oxygen Demand (EOD), which includes both carbonaceous biochemical oxygen demand and ammonia.

The equation applies to five entities- city of South Bend, city of Raymond, East Point Seafoods, South Bend Packers, and Coast Seafoods. The five dischargers have individual portions of the total WLA that they all must meet during the months of July through September. The 'equation' is simply a calculation to figure the maximum amount of BOD and ammonia that each facility can discharge so that the total discharges don't violate the water quality criteria. The five facilities have agreed to these specific WLAs that combines the effects of both parameters on DO.

The following table provides the distribution and cumulative wasteload allocations.

Table 5: Wasteload Allocation for Equivalent Oxygen Demand (EOD)

Facility	EOD (µg/L)	Formula ⁽¹⁾
Raymond WWTP	99	$(0.207)(\text{CBOD}_5 + (0.420)(\text{NH}_3 - \text{N})) \leq 99$
South Bend WWTP	25	$(0.067)(\text{CBOD}_5 + (0.132)(\text{NH}_3 - \text{N})) \leq 25$
East Point Seafoods	45	$(0.031)(\text{CBOD}_5 + (0.178)(\text{NH}_3 - \text{N})) \leq 45$
South Bend Packers	5	$(0.027)(\text{CBOD}_5 + (0.155)(\text{NH}_3 - \text{N})) \leq 5$
Coast Seafoods	15	$(0.019)(\text{CBOD}_5 + (0.109)(\text{NH}_3 - \text{N})) \leq 15$
Reserve	10	
Total WLAs	199	
⁽¹⁾ CBOD ₅ and NH ₃ –N loadings are in units of lbs/day weekly average.		

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the state of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in receiving water while remaining protective of aquatic life. Numerical

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criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

ANTIDEGRADATION

The state of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be protected. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the water body's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses. The critical condition for the pollutants in this discharge has not been determined.

Mixing Zones

This permit does not authorize a mixing zone around the points of discharge.

DESCRIPTION OF THE RECEIVING WATER

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In 2003, the Department completed the first major revision of Washington's water quality standards in over 10 years. The EPA has only partially approved these revised standards. Currently, the Department is using the 2003 rule for the parts that EPA has approved, and is using the 1997 rule for the sections that EPA has *not* approved. Until the 2003 standards are fully adopted, a mix of both sets will apply.

South Bend Packers discharges to the lower Willapa River, which is designated as Class A marine water due to measured salinity concentrations. Other nearby point source outfalls include: the city of Raymond POTW, the city of South Bend POTW, Coast Seafood, East Point Seafood, and the Weyerhaeuser Raymond sawmill stormwater outfalls. The 1997 standards list the following characteristic uses for Class A:

water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliforms	100 organisms/100 mL maximum geometric mean
Dissolved Oxygen	8 mg/L minimum
Temperature	18 degrees Celsius maximum or incremental increases above background
pH	6.5 to 8.5 standard units
Turbidity	less than 5 NTU above background
Toxics	No toxics in toxic amounts

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

HUMAN HEALTH

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Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge does not contain chemicals of concern based on existing data or knowledge. The discharge will be re-evaluated for impacts to human health at the next permit reissuance.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittee's to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE PERMIT ISSUED ON SEPTEMBER 17, 2001

Parameter	Existing Limits	Proposed Limits
Flow, gallons per day	None	25,000
Temperature maximum (°C)	18	18
pH, S.U.	6.0 - 9.0 at all time	6.0 - 9.0 at all times
Total residual chlorine, mg/L	0.4/1.7	0.4/1.7
BOD, lbs/1,000 lbs product		
Dungeness Crab (average/maximum)	4.1/10	4.1/10
Tuna (average/maximum)	8.1/20	8.1/20
Hand-butchered Salmon (average/maximum)	1.7/2.7	1.7/2.7
TSS, lbs/1,000 lbs product, average/maximum:		
Dungeness Crab (average/maximum)	0.69/1.7	0.69/1.7
Tuna (average/maximum)	3.0/7.5	3.0/7.5

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Parameter	Existing Limits	Proposed Limits
Hand-butchered Salmon (average/maximum)	0.42/0.70	0.42/0.70
Conventional Bottom Fish (average/maximum)	2.0/3.6	2.0/3.6
Pacific Coast Oyster (average/maximum)	36/45	36/45
Oil and Grease, lbs/1,000 lb product		
Dungeness Crab (average/maximum)	0.10/0.25	0.10/0.25
Tuna (average/maximum)	0.76/1.9	0.76/1.9
Hand-butchered Salmon (average/maximum)	0.026/0.045	0.026/0.045
Conventional Bottom Fish (average/maximum)	0.55/1.0	0.55/1.0
Pacific Coast Oyster (average/maximum)	1.7/2.2	1.7/2.2
Fecal Coliform, colonies/100 mL (average/maximum)	none	200/400
Equivalent Oxygen Demand (EOD) (µg/L)	none	5
Equivalent Oxygen Demand (EOD) total (µg/L)	none	199

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. SBP's uses Columbia Analytical Laboratory in Longview.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from

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drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, the Department may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under authority of RCW 90.48.080, that the Permittee develop a solid waste plan to prevent solid waste from causing pollution of waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

GENERAL CONDITIONS

General Conditions are based directly on state and federal laws and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this proposed permit be issued for five years.

REFERENCES FOR TEXT AND APPENDICES

Cosmopolitan Engineering. 2005. *Lower Willapa River Dissolved Oxygen TMDL Submittal Report*. Cosmopolitan Engineering Group, Tacoma, WA.

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

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1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

2006. Willapa River Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report and Implementation Plan. Publication Number 06-10-017. February 2006.

1994. Permit Writer's Manual. Publication Number 92-109

Laws and Regulations(<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on June 22, 2005, and June 29, 2005, in *The Chinook Observer* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on (date) in *The Chinook Observer* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30 day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360)407-6286, or by writing to the address listed above.

This permit and fact sheet were written by Don Reif.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96-hours.

AKART-- An acronym for "all known, available, and reasonable methods of treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water 90 percent.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--RESPONSE TO COMMENTS

No comments were received.